

## DERBY AND DISTRICT AMATEUR RADIO SOCIETY

### Incorporating Derby Wireless Club (1911)

DADARS Newsletter

July 2019

### EVENTS RECENT AND FUTURE

#### JUNE 2019

- 4th Junk Sale
- 11th Committee Meeting
- 18th 'An alternative look at  
aerials and measure-  
ments' - a talk and  
demonstration by Chris  
Beresford.
- 25th No meeting

#### JULY 2019

- 2nd Junk Sale
- 9th Committee Meeting
- 16th Video Night
- 23th No meeting
- 30th No meeting

#### AUGUST 2019

- 6th Junk Sale
- 13th Committee Meeting
- 20th Aerials for Small Places
- 27th No meeting

The club website and emails from the secretary contain the most up to date information. Please consult with these for the latest information.

We meet at 7.30pm on the FIRST and THIRD Tuesday of the month. There will be NO meeting on the FOURTH Tuesday or the FIFTH if there is one.

### Introduction

Welcome to the July edition of the DADARS newsletter. This will, hopefully, summarise our activities since the November offering in 2018.

As usual we are looking for activities, talks, demonstrations and days out. If you have any thoughts or if you are interested in a subject then let a committee member know and we will see what can be done.

### Christmas 2018 Social Event

The Club Christmas meal was held at the Kings Highway on Tuesday 11<sup>th</sup> December 2018 at 2pm. Surprisingly, for a Christmas meal the food was very good with few complaints (which is unusual).



A few members reported that the parsnips were a little hard but overall the quality was good and commensurate with the cost.

The event was well supported and gave a chance for members and partners to meet and natter for a couple of hours. I did notice a topband antenna drawn out on the back of a napkin and lots of radio talk so I considered the event a success. Hopefully we can do it again soon - do we have to wait for Christmas?

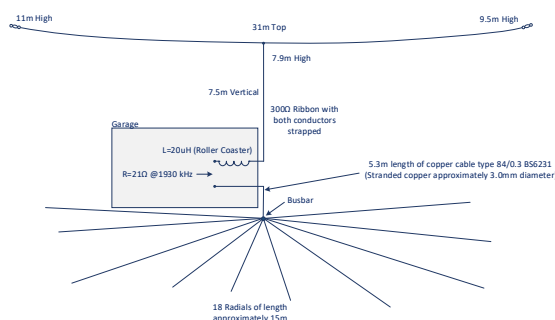
### Talks and Presentations

We enjoyed a number of interesting events during the early part of 2019 despite the temperature of the Club room and the fact that the gas supply to the building had been switched off due to a gas leak.

The junk sale on the first Tuesday of each month, as usual, proved popular. This event attracts more people to the Club room than any other.

Scruffy boxes full of 'stuff', old reels of wire, portable CD players and piles of magazines passed hands after frenzied bidding.

On 19<sup>th</sup> January we held an open talk on 'Aerials for Small Places'.



This caused a lot of discussion mainly because the talk was open for anyone to stand up and discuss their experience. Unfortunately, someone had removed our whiteboard from the club room. The first talk was from Richard G3VGW - we had to imagine an antenna in our heads as Richard waved his arms around without the use of visual aids. Fortunately, we managed to find another whiteboard later in the talk (although the pens didn't work). Actually, it was a good and stimulating session and we plan to do it again on 20th August.

The Club organised a visit to the Rolls-Royce Heritage Centre on Osmaston Road, Derby on 26<sup>th</sup> March 2019. We received a detailed commentary and viewed examples of Rolls-Royce engines spanning the full range of the aero industry from the very early piston engines all the way to the very latest Trent variants. This was an excellent day out and very informative although limited to only 15 places.

We received a visit from our RSGB district representative Richard Carrington G0RRZ on 16<sup>th</sup> April. It was a chance for Richard and his colleagues to outline the approach adopted by the RSGB to progress the hobby and make it more attractive to younger people. It was also a chance for Club members to ask awkward questions and clarify

our understanding. It turned out to be another interesting evening.

Finally, we are looking forward to what should be a very interesting talk on 'An alternative look at aeriads and measurements' from Chris Beresford on 18<sup>th</sup> June 2019.

## AGM

The Club held the AGM on 19th March 2019 and elected officers for the following year. We welcomed Kevin G4CMZ as a new committee member and we re-elected all of the people previously in post. However, we are still short of a Chairman and a Secretary. Any volunteers?

## Dr Mark Edworthy G3URU - Silent Key

I am sad to report that Mark Edworthy, G3URU, passed away suddenly on 13th May 2019 at the age of 69. Mark was a former member of DADARS and held membership number 431. He visited the Club recently and gave us a talk on his flying exploits which were unusual because Mark had suffered from Polio early in life and was confined to a wheel chair. Mark's funeral was held at St. Peter's Church, Littleover on Tuesday 11th June at 10.45am. Donations were made to the Disabled Flying Association.

## Digital Modes

To keep up with the times, I have included a section on Digital modes. Peter G6KUI, reported that he had worked several thousand stations on FT8 using the LF and HF bands. After a lot of encouragement from Peter, I finally grasped the nettle

and tried FT8 on transmit. It was surprisingly easy. Initially I messed up several QSOs and probably irritated a number of people before realising that the message interchange is automatic once you double-click on the station you want to work.

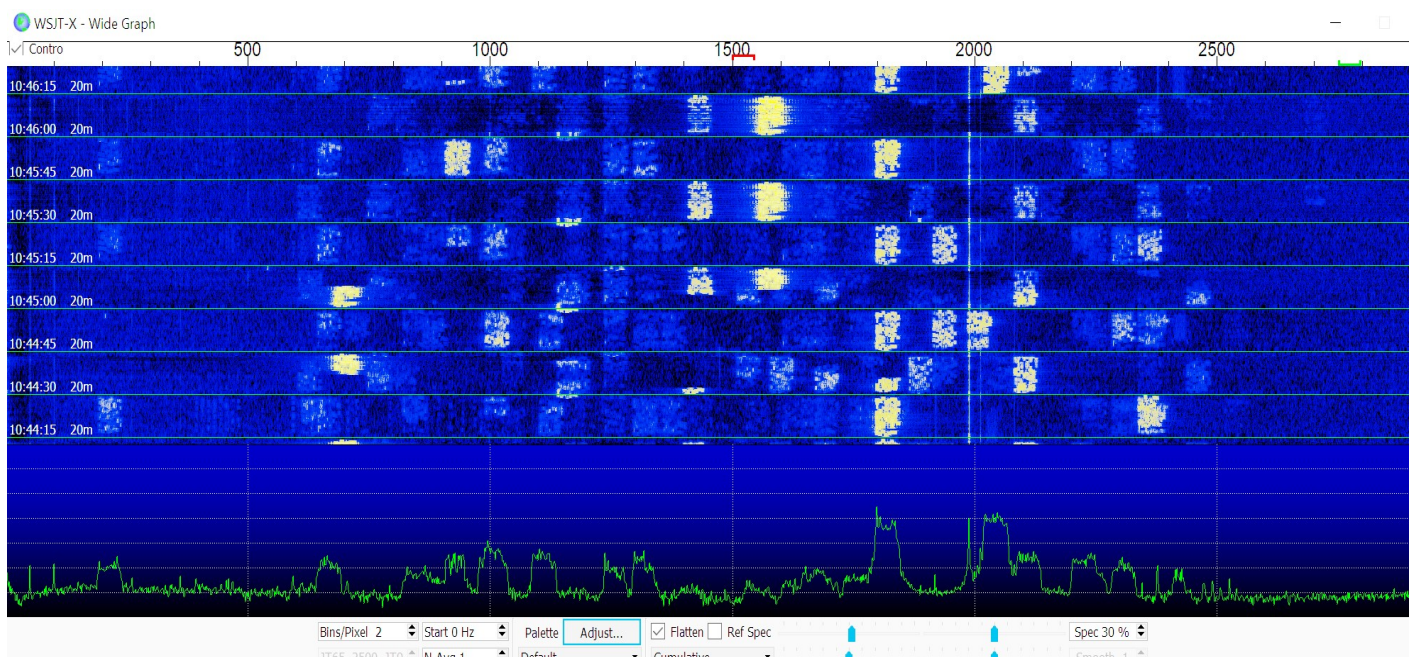
All the bands up to 10m were open and signal paths existed almost everywhere despite little or no sunspot activity. My best DX (on WSPR) was 14,000km to Antarctica on 80m using 20 Watts at 8.00 pm in June; my signal was a thumping -28dB below the noise in an SSB bandwidth. When I told Peter about the contact to Antarctica, he was less than impressed and said: "Oh yes, I have worked them many times"!

FT8 really is worth a try. I could imagine that even with a very modest antenna and QRP, contacts over huge distances are possible.

## Sun Spot Minima

It is official, NASA has declared that our Sun has reached the 2019 sunspot minima during June following 16 consecutive days of zero sunspots.

Experts on the 'Prediction Panel' say that Solar Cycle 25 may be slow to start, but it is anticipated to peak with solar maximum occurring between 2023 and 2026, with a sunspot range of 95 to 130. However, the current solar minimum could last for more than a year. On the bright side, it now looks as though a super-deep solar minimum such as the 70-year Maunder Minimum of the 17th century will not occur. Some were hoping that a sustained minima would result in a

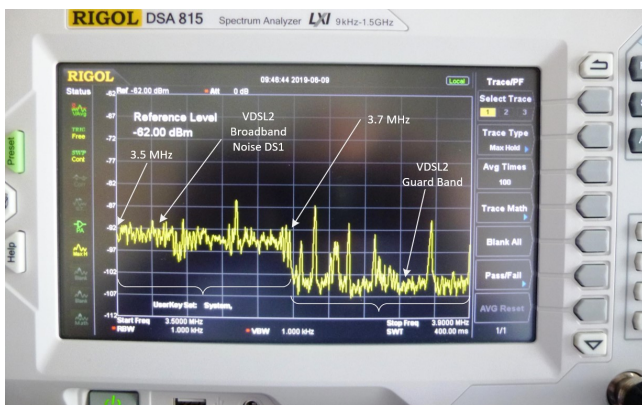


**20m During the Day on FT8 - Loads of Activity**

mini ice-age, cooling the planet, and saving us from climate change.

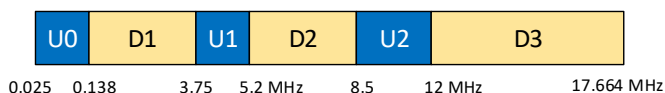
### 5G is Good News - I think?

Anyone using HF recently will notice that the bands are full of noise. For example, in my shack, the noise at 3.6MHz is a constant S8 that sounds just like band noise. The reason is that the suppliers of VDSL2 broadband made the commercial decision not to notch out the amateur spectrum - a decision that resulted in gross interference and a degradation of our hobby.



**Downstream DS1 band ending at 3.7 MHz is visible on a loop antenna mounted 70 feet from the house and rotated for minimum pickup.**

Plan 998ADE17



However, an article in the FT in August 2018 suggested that BT/Openreach is planning on cutting back the number of new copper installations. For example, cutting projected G.fast services from 10m to 5.7m over the next two years and instead, concentrating on installing more full fibre lines to the home. I cannot state if this is true or why it is happening but it could be a realisation that, in the long-term, increased demand on speed and competition will eventually make copper delivery methods moribund.

**This is good news for the radio amateur** - fibre does not radiate. As speeds in the home increase, nasty home data systems such as Power Line Transmission (PLT) will be unable to cope and will become a bottle neck. Hopefully, PLT is destined for obsolescence.

The 5G phone network rolled out in May 2019. Journalist reported download speeds of up to 980Mbps in Covent Gardens. Others reported downloads of

around 200Mbps or more. It is very early days for 5G yet these speeds already make VDSL2 look pedestrian. In only a few years, we will ask ourselves the question: why do I want 80Mbps over copper and pay for line rental if I can get Gbit performance on my phone and devices? At the moment 5G is not widely available but that will change rapidly. How long will it be before 5G ready television sets and 5G ready computers become available?

So, what is the future predicted broadband requirements? An interesting approach is 'Nielsen's Law' that states "A high-end user's connection speed grows by 50% per year". Check out the web site for yourself:

<https://www.nngroup.com/articles/law-of-bandwidth/>.

Nielsen's Law of Internet Bandwidth has held true during the previous 36-year period. Looking ahead, the law suggests that top-end internet speeds will exceed 1Gbps within a few years. 5G seems to be close to that already.

My hope (and prediction) is that copper broadband will reach a tipping point and then start to decline in numbers. Hopefully, we may get our amateur bands back noise-free that allows us to ditch FT8 and start talking to each other again. However, it may be just our luck that noise from VDSL2 will be replaced by other noise sources - probably electric car charging!

### Avoid VDSL2 Noise on 80m

If you suffer from VDSL2 noise, then try 80m between 3.7MHz and 3.8MHz. The band plan 998ADE17 used in the UK contains a transition between downstream 1 (D1) and upstream 1 (U1) at 3.75MHz. The standard provides a guard band of +/- 50kHz making 3.7MHz to 3.8MHz VDSL2 noise free. In my station, the drop is a miraculous S8 to S1 in just a few kHz.

The picture above shows the noise step at 3.7MHz on my receiving loop. The step at 3.7MHz can be as high as 15dB on the main antenna.

Well, that's enough rambling for this newsletter. I still live in hope that someone will submit an article for submission - it would be very welcome. Anything: a good method of fitting PL259 plugs or gardening tips such as weeding using a power washer- I am desperate.

73

Chris G4AKE